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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,382	09/26/2000	Kevin Lynaugh	80113-0070	3376

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EXAMINER

WEST, JEFFREY R

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/669,382

Applicant(s)

LYNAUGH ET AL.

Examiner

Jeffrey R. West

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-14 and 22-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14 and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s). _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Priority

1. In the substitute specification, the applicant claims priority, under 35 U.S.C. 119(e), over Provisional Application No. 60/155,802, however, the signed Oath/Declaration doesn't include this claim for priority. A signed copy of the Oath/Declaration claiming priority over the aforementioned application is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 2, 5-14, and 22-25 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1 and 22 describe a method, and apparatus, for estimating the input power in a cable modem device comprising the steps of inputting a plurality of calibration signals, recording a calibration point corresponding to each calibration signal, connecting the calibration points, and generating a look-up table using the connected calibration points. Based on the drawings and disclosure, however, it is

unclear how one with ordinary skill in the art would compute the input power from these look-up table values.

The specification describes the associated method on page 8, lines 3-13, as "After all of the desired points have been generated from interpolating and extrapolating the calibration data, the resulting look-up table preferably contains one AGC integrator accumulator value data point for each amplitude and frequency value in the tuner's operating range. When a user wishes to measure the input RF power to the modem's receiver, the current AGC integrator accumulator value Ψ_{acc} is matched with the AGC integrator accumulator value Ψ_{acc} corresponding to the tuner's frequency from the look-up table and used to estimate the input power. Because the AGC integrator accumulator values in the look-up table are obtained via the modem's actual operating characteristics, the values in the look-up table will reflect and compensate for any variations in the particular device's characteristics, such as gain non-linearity, frequency ripple, or temperature effects, in the input power calculation". The method is again described on page 9, lines 12-15, as "During operation, the modem simply references the data corresponding to the input frequency and AGC integrator accumulator value in the look-up table to obtain an associated input power value."

This method is unclear to one having skill in the art because it incorrectly assumes that there is going to be an input power value associated with each set of obtained frequency and AGC integrator accumulator values. The only time this assumption can be made is if there is always a linear relationship between the three

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values, but as stated in the previous Office Action, no relationship between these three values has been provided and, as noted above, the invention is described for determining power values under non-linear conditions.

To further explain, Figure 6 provides an illustration of the cable modem implementation of a look-up table. First, this drawing displays that the three values are not linearly related. Second it can be seen that, for illustrative purposes, if the measured input values are: an input frequency of 140 and an AGC integrator accumulator value of 0, the user would then use the instant method and look up the corresponding input power amplitude, in this case a value of 0. The problem arises if the measured input values are: an input frequency of 120 and an AGC integrator accumulator value of 0, or likewise an input frequency of 140 and an AGC integrator accumulator value of 50. In these cases, or any other case where the input values converge on an interpolated point not present in the look-up table, there is no input power value corresponding to the input frequency and AGC integrator accumulator values and therefore it is unclear, to one having skill in the art, how to obtain the input power value.

Claims 2, 5-14, and 23-25 are rejected under 35 U.S.C. 112, first paragraph, because they incorporate, and fail to correct, the lack of clarity present in claims 1 and 22.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1, 2, 5-14, and 22-25 are rejected under 35 U.S.C. 101 because the disclosed invention is inoperative and therefore lacks utility.

As set forth in the description above, the claimed invention is inoperative, specifically, because the invention provides a method for determining an input power value based on an obtained frequency value and an obtained AGC integrator accumulator value, in which the claimed method is inoperable any time the frequency and AGC integrator accumulator values do not exactly correspond to an input power value.

Response to Arguments

6. Applicant's arguments filed July 16, 2002, have been fully considered but they are not persuasive.

The applicant argues that the substitute specification enables one having ordinary skill in the art to use the invention and, specifically, clarifies the feature of using a look-up table to compute the input power to the receiver. While the substitute specification does cure the inaccurate step, "when the user wishes to measure the input RF power to the receiver, the AGC integrator accumulator value Ψ_{acc} corresponding to the tuner's frequency and amplitude [power] is read from the look-up table, such as the one shown in Figure 5, and is used to calculate an estimated input RF power value as explained above" (i.e. using equation (4)), which

describes using the input power to obtain an AGC integrator accumulator value which is then used to calculate the input power, the substitute specification now presents the deficiencies described above.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

U.S. Patent No. 5,452,473 to Weiland et al. teaches transmit power correction and limitation in a radiotelephone system wherein a power detector performs an integration to determine an automatic gain control setpoint. This setpoint and a frequency index are used to linearize the results to reduce errors inputted into a look-up table.

U.S. Patent No. 6,118,811 to Narumi et al. teaches self-calibrating, self-correcting transceivers and methods for receiving calibration signals with known levels and frequencies.

U.S. Patent No. 5,265,151 to Goldstein teaches a method of improving modem performance through control of its transmitted power by indexing calibration power levels in a look-up table.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in

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this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. West whose telephone number is (703)308-1309. The examiner can normally be reached on Monday thru Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703)308-1677. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

jr
September 19, 2002


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800